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December 24, 2001

ERT
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step to
2/28/02

U.S. Department of Commerce
Patent and Trademark Office
Assistant Commissioner of Patents
Stanley Witkowski, Primary Examiner
Group Art Unit 2837
Washington, DC 20231

Reference: Reply to Patent Office Action dated October 4, 2001 on Application 09/655792
by Bernard H. Browne, Jr.

To: Assistant Commissioner of Patents

I hereby certify that this correspondence is being deposited with the United States Postal
Service as Priority Mail in an envelope mailed to:

U.S. Department of Commerce
Patent and Trademark Office
Assistant Commissioner of Patents
Stanley Witkowski, Primary Examiner
Washington, D.C. 20231

on this date of December 24, 2001.

This letter is in reply to the Patent Office's action dated 10/04/01 on the above referenced
patent application's more detailed version that was requested on 1/24/01. Attached you will
find responses to each of the patent office's comments as well as some amended claims.

Thank you for your consideration, and we apologize for not being more detailed in our
original application. We have presented our latest response in a format which should make
your work hopefully much easier.

Thank you.

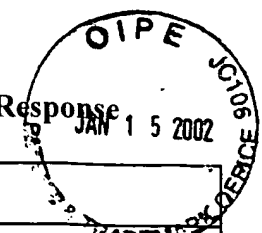
Sincerely,

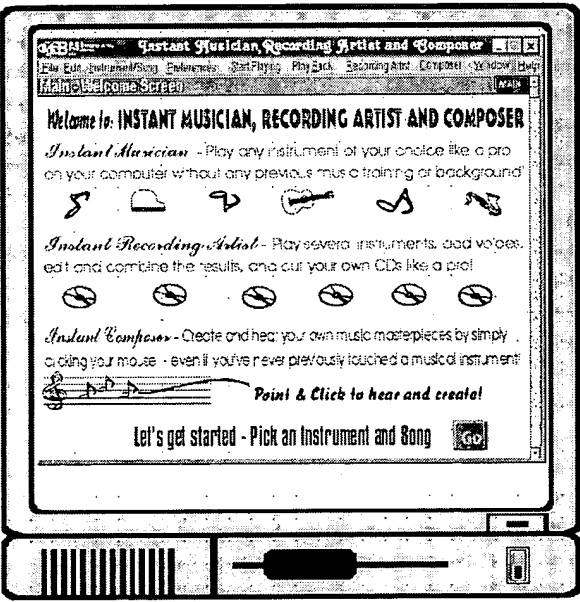
Bernard H. Browne, Jr.

Owner and Author of *America Online and Best Web Sites* book series
Byte Masters International

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JAN 25 2002
TECHNOLOGY CENTER 2800

Attachments: Detailed responses to patent office's comments (17 pages) and amended
claims (6 pages).



Patent Office's Comments	Applicant's Current Follow-Up Actions
<p><u>Items 1 & 2:</u> Claims 5-10, 13-15 and 17 are objected to under 37 CFR 1.75(c) as being improper form because a multiple dependent claim should refer to other claims in the alternative only. Accordingly, the claims have not been further treated on the merits.</p>	<p><u>Claims 5-10, 13-15 and 17</u> have been amended to replace the "and" aspect of these dependent claims with "or." These amended claims are attached and are so marked as "amended."</p>
<p><u>Items 3 & 4:</u> Claims 1-4, 11, 12 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. In particular, the material added in the specification and drawings regarding figures 1, 3A, 4, 5, 5A, 5B, 5C, 6, 8 and 9 are not supported by the original disclosure. There is no antecedent support in the original disclosure for this material. Even though this material may be well known in the art, it is still new to this application and thus, constitutes new matter in this application.</p>	<p>More detail was added to our amended patent application as requested by the patent office's first response, but the detail is definitely supported by the original disclosure in one form or another (specification and/or figures). Detailed explanations follow below and in the pages ahead for each claim and figure designated in items 3 & 4.</p> <p><u>Claims 1-3 opening statement pertaining to an Integrated Music System:</u> The opening phrase in claims 1-3: "An integrated music system for use on a computer by a user comprising subsystems consisting of an <i>Instant Musician</i> sub-system, <i>Instant Recording Artist</i> sub-system and <i>Instant Composer</i> sub-system" is supported by the very name of our invention filed which is the <i>Instant Musician, Recording Artist and Composer</i> in addition to considerable detail explained below and in pages ahead.</p>
 <p>Figure 1- Original Disclosure.</p>	<p>Figure 1 (left) of the original disclosure displayed the presence of the three integrated sub-systems comprising our invention. Also, from the original specification page 3, line 3: "The welcoming screen on drawing 1 also shows the main menu bar depicting the manner in which the computer user may switch between the principal three different modes of operation and control various aspects of the operation in each mode (musician, recording artist or composer)."</p> <p>Perhaps in some ways our totally integrated music system for computers that allows anyone with no music experience to do just about anything in the music world is in some ways like the recently highly acclaimed Segway Human Transporter. While there is really no new gizmo contained in the Segway invention since gyroscopes, servo mechanisms, power systems and a lawnmower type design have been around for some time, the integration of these items in a unique sense made something new and patentable. In somewhat of a similar sense aside from our really new "type and play" subsystem, it is the integration of things in our very unique sense that has given our <i>Instant Musician, Recording Artist and Composer</i> a very unique overall capability that will enlighten the lives of computer users very much by suddenly giving them overall music capability even though they might not have any music background what-so-ever.</p>

Items 3 & 4 -Relating to claim 1 as containing subject matter which was not supported by the original disclosure.

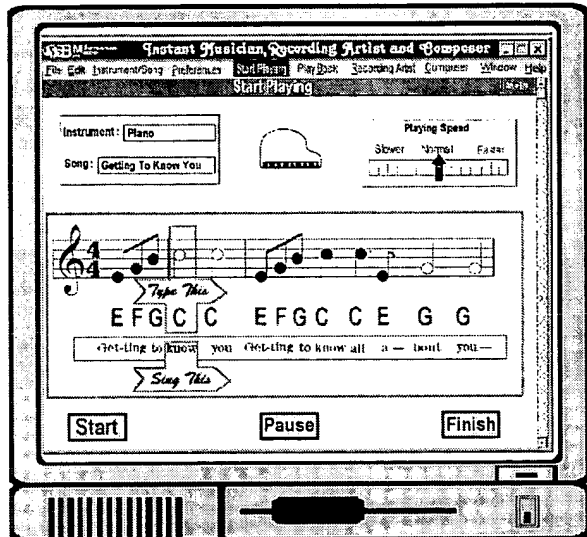


Figure 4 - Original Disclosure.

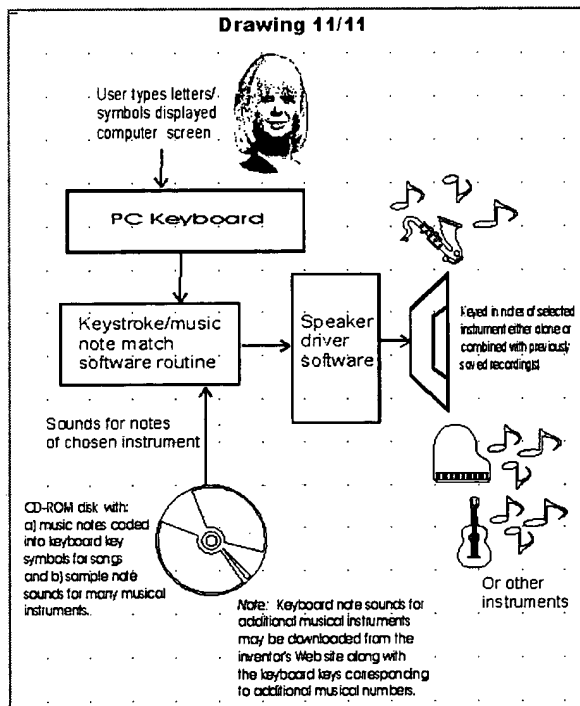


Figure 11 - Original Disclosure.

Claim 1 - Relating to providing a means to play musical numbers from a computer keyboard and have the notes sound like notes played from chosen musical instruments:

From the original specification pages 5 and 6: Instant Musician: This aspect of the invention includes algorithms that relate computer keyboard keys to stored music musical instrument sounds for the selected musical instrument, and the keyboard keys to be "played" for a selected musical number are displayed on the computer screen. This allows ordinary computer users will no musical training what-so-ever to immediately start playing any musical piece using any selected instrument of their choice! After selecting the musical instrument and music piece, all the user has to do is type the keyboard letters appearing on the screen. Each different letter typed on the computer's keyboard creates a sound on the computer's speakers matching the exact sound of the note played for the particular instrument chosen. The data bank of recorded instrument sounds that the user can select from is extensive and can even contain newly synthesized instruments (cybersyn instruments).

Also, Figure 4 of the original disclosure (upper left) shows this system capability and detail backing up this user interface/display was shown in figures 8, 9 10 and 11 of the original disclosure.

Further, the keystroke/music note software routine was shown in Figure 11 of the original disclosure (lower left).

Items 3 & 4 - Relating to claim 2 as-containing subject matter which was not supported by the original disclosure.

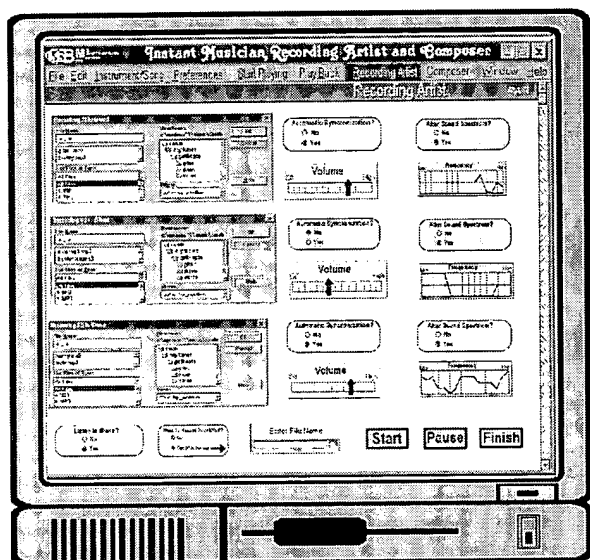


Figure 6 - Original Disclosure.

Claim 2 Relating to Instant Recording Artist: The several items in the original disclosure that back this claim follow.

From the original specification page 4: "The spectral content of each recording combined may be individually altered by modifying the baseline uniform spectrum with a touch of the mouse."

From the original specification page 6: "Instant Recording Artist: Musical numbers played by computer users with particular chosen instrument sounds may be recorded upon option for future play backs and then may be combined with previously recorded efforts on the same music number using other instruments as well as voice recordings. The combined musical pieces are kept in prefect sync using a digital timing bit stored with each number's recorded note. This ability to digitally combine previously recorded sessions with controls on volume and balance creates the recording artist aspect of this invention since a single user with no musical experience what-so-ever can easily create complex recorded music numbers of his own making and cut CDs of these mixed instrument/voice recordings."

Further, the significant innovation of this part of our invention was shown in Figure 6 (left) of the original disclosure where users are given the option of not only combining original music numbers played from a conventional computer keyboard, but also given the option of additionally transforming individual frequency spectrums into anything the users choose! This feature is quite unique to this invention and different from simply amplifying and/or attenuating given frequencies of previously recorded music since with this feature, users can completely transform sounds into frequency ranges not even originally present. We note that "transforming" music content into higher or lower frequencies is quite different than simply amplifying and/or attenuating music content that exists in given frequency bands.

Items 3 & 4 - Relating to claim 3 as containing subject matter which was not supported by the original disclosure.

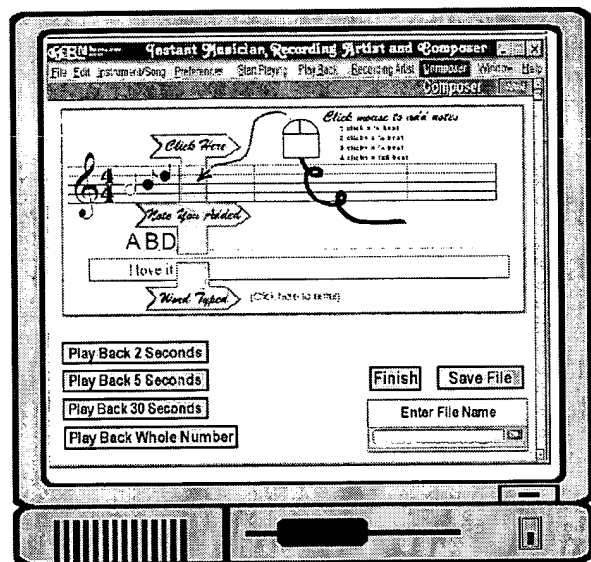


Figure 7 - Original Disclosure.

Claim 3 - Relating to Instant Composer: There are also several items in the original disclosure that back this claim and they are listed below.

From the original specification page 6: "Instant Composer: This aspect of the invention allows any computer user to create his or her musical numbers by simply clicking a mouse on blank sheet displayed on the screen. Appropriate musical instrument sounds occur for the selected musical instrument at the time the sheet music is clicked so that the "composer" may instantly hear the results of his or her music creations as they are being composed. Both the sounds and the filled in sheet music are stored as creative efforts are in progress so that the "composer" will be able to immediately play back partially completed or fully completed works and modify any portion by overriding mouse clicks."

Further, this aspect of our invention was depicted plainly in Figure 7 of the original disclosure (left).

We do note that our amended disclosure that provides more detail as requested does show the presence of a microphone so musical scores may be created by singing, humming, whistling, etc. However, the use of a microphone was strongly implied in our original disclosure. The following is from page 6, line 14 in our original disclosure:

"Musical numbers played by computer users with particular chosen instrument sounds may be recorded upon option for future play backs and then may be combined with previously recorded efforts on the same music number using other instruments as well as voice recordings." The reference to "voice recordings" implies the use of a microphone. And, of course, most personal computers now come with microphones.

Items 3 & 4 - Relating to claim 4 as containing subject matter which was not supported by the original disclosure.

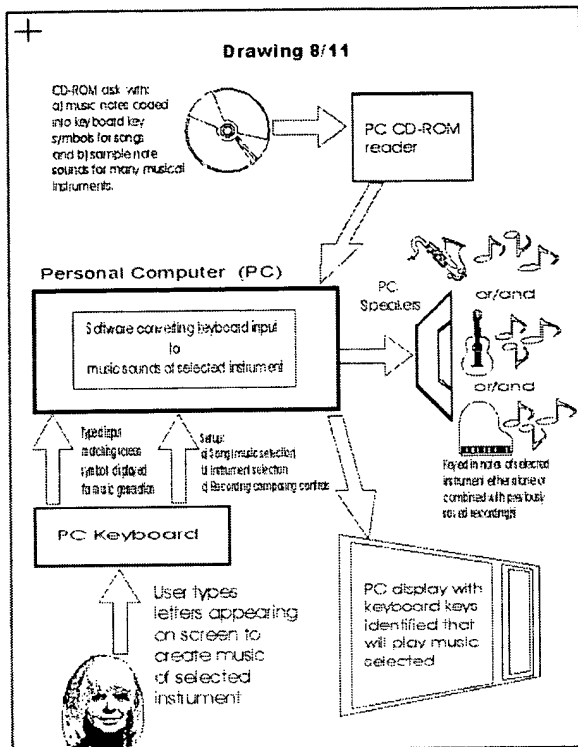


Figure 8 - Original Disclosure.

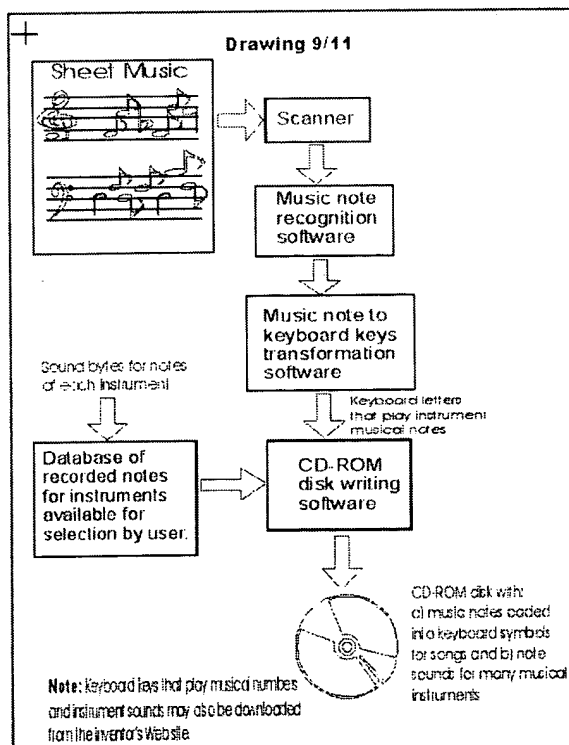


Figure 9 - Original Disclosure.

Claim 4 - Relating to the *Instant Musician* system apparatus:
We point out below where each part of the system apparatus in claim 4 of our revised application was included in the original application.

Claim 4, line 3 & 4: computer readable program instructions for executing the functions of the Instant Musician sub-system;

The software for performing this function was shown in Figure 8 of the original disclosure (left).

Claim 4, lines 5-8: storage means readable by computer readable media for storing a plurality of data sets or databases having all single musical note designations from an all inclusive sample music scores covering each possible musical note tied in the database to recorded single musical notes from the actual sounds of all known musical instruments;

The CD-ROM disk shown in the original Figure 8 (left) shows a form of the storage means readable by a computer for storing the data sets specified.

Claim 4, lines 9-12: storage means readable by computer readable media for storing a plurality of data sets or databases for a plurality of musical numbers or songs in which classical representations of musical notes and other musical score symbols are related in the database to keys on standard computer keyboards;

Figure 9 in the original disclosure (left) showed both the means to store the plurality of data sets needed to play musical numbers from a computer keyboard as well as the software for transforming musical notes to computer keyboard keys (see routine labeled "Musical note to keyboard keys transformation software").

Claim 4, lines 13-15: display means for displaying standard computer keyboard keys correlated by the system described in claim 1 to the notes displayed by the system of the music score of a music piece or song selected by the user;

Figure 8 (above left) showed the display means identified. More detail on this was also shown in Figure 10 of the original disclosure and a sample of a screen display was shown in Figure 4 of the original disclosure.

Items 3 & 4 - Relating to claim 4 as containing subject matter which was not supported by the original disclosure. (continued)

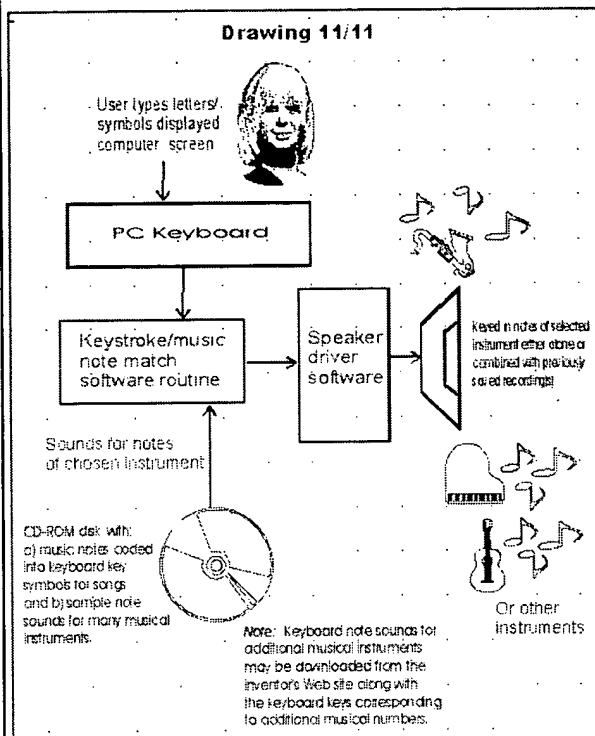


Figure 11 - Original Disclosure.

Claim 4, lines 16-18: sound generation means for generating sounds of stored musical note sounds of musical instruments when directed by the system software program in response to user computer keyboard key actions;

Figure 11 of the original disclosure (left) clearly shows the keystroke/music note match routine, computer speaker(s) and speaker driver software supporting this claim.

Claim 4, lines 19 & 20: sound pickup means for picking up and recording sounds detected by a microphone or other sound pickup device connected to the system computer.

As we noted previously, our amended disclosure with more detail did show the presence of a microphone. And as we also previously noted, we had made reference to "voice recordings" in the original disclosure which implies the use of a microphone, and most personal computers now come with microphones.

Items 3 & 4 - Relating to claim 11 as containing subject matter which was not supported by the original disclosure.

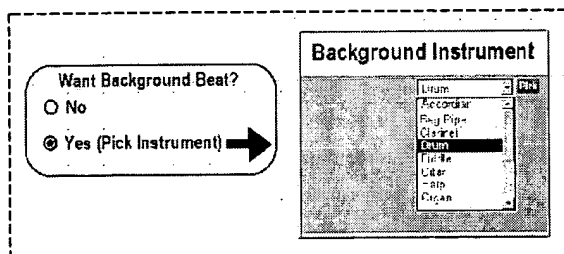


Figure 3 (element of) - Original Disclosure.

Claim 11 regarding the optional inclusion of a background beat when playing music by "typing" is fully supported by the original patent disclosure as pointed out below.

The option for the user to select a background "beat" for the music that the user will generate by typing was shown in Figure 3 of the original disclosure (left).

Further supporting this aspect of the claim is the following from the original specification, page 6, line 8:

"An optional background music beat may be chosen as well as a display of words corresponding to the musical number if the user wishes to sing along as well."

Items 3 & 4 - Relating to claim 12 as containing subject matter which was not supported by the original disclosure.

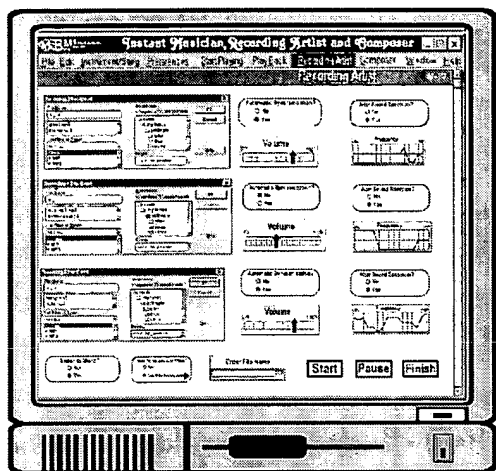


Figure 6 - Original Disclosure.

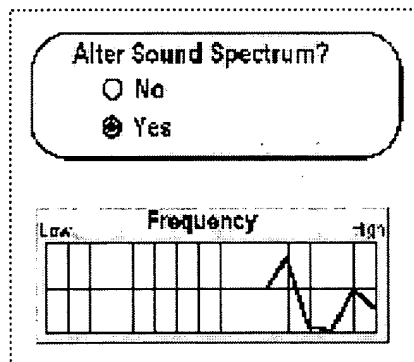


Figure 6 (element of)- Original.

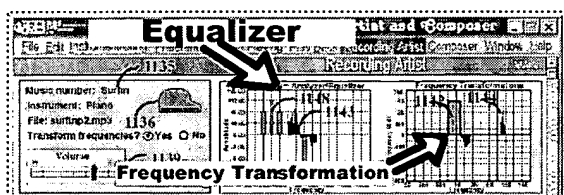


Figure 11D (element of) - Amended Disclosure.

Claim 12, lines 1-3: pertaining to computer readable program instructions for executing the functions of the Instant Recording Artist.

The functionality of the *Instant Recording Artist* software was very much illustrated by the computer display shown in Figure 6 of the original disclosure (left). Other aspects will become evident in the paragraphs ahead.

Claim 12, lines 4 & 5: pertaining to display means for displaying both the frequency/spectrum analyzer functions and the function of frequency transformations of music recordings.

In our original disclosure's Figure 6 (portion enlarged lower left), we included a computer screen mechanism for transforming frequencies of sounds (by dragging a mouse). By transforming frequencies — not just attenuating or amplifying portions of spectrums — a soprano singer, for example, could be made to sound like an ultra low frequency bass singer. A detail added in our amended disclosure was to add an equalizer with the transformation function. The equalizer and frequency transformation functions are clarified in the lower figure to the left, and this addition of an equalizer is no more significant than adding a briefcase holder to the Segway human transporter.

Claim 12, lines 6 & 7: pertaining to a storage means for storing music numbers being combined.

From the original specification page 1, bottom two lines: "After the sounds of several instruments (and/or voices) have been stored in the computer's memory, they may be synchronously combined at various selected levels by the user to create the unique sound of many instruments (and people) rendering the particular music piece or song."

Claim 12, lines 8 & 9: pertaining to the sound generating means.

Figures 8 and 11 of the original disclosure shown on pages 5 and 6 clearly show a sound generating means.

Claim 12, lines 10 & 11: pertaining to a sound pickup device.

From page 6, line 14 our original disclosure: "Musical numbers played by computer users with particular chosen instrument sounds may be recorded upon option for future play backs and then may be combined with previously recorded efforts on the same music number using other instruments as well as voice recordings." This refers to being able to process voice inputs from the user which implies use of a sound pickup device or microphone.

Instant Musician, Recording Artist and Composer

File Edit Instrument Sequencing Playback Recording Composer Window Help

Composer

Click mouse to add notes

Click here to edit

Note You Added

ABD

Word Typed

I love it

Play Back 2 Seconds

Play Back 5 Seconds

Play Back 30 Seconds

Play Back Whole Number

Finish

Save File

Enter File Name

OK

Keystroke/music note match software routine

Sounds for notes of chosen instrument

CD-ROM disk with:
a) music notes coded into keyboard key symbols for songs;
and b) sample note sounds for many musical instruments.

```

graph LR
    subgraph DashedBox [ ]
        K[Keystroke/music note match software routine]
    end
    In(( )) --> K
    K --> S[Speaker driver software]
    S --> Sp[Speaker Icon]
    Sp --- Text[Played in order of selected instrument either alone or combined with pre-recorded sound recording]
  
```

Claim 16 regarding what comprises the *Instant Composer* aspect of our invention. Each element of the claim is supported by the original disclosure as described in the below:

Claim 16, lines 1-3: pertaining to use of computer readable program instructions for executing the functions of the Instant Composer sub-system.

From the original specification on page 4, line 7: It allows the user to compose music from scratch by simply clicking a mouse or other computer screen navigation device on the blank sheet music depicted. This, of course, directly implies the use of computer readable instructions as does the generation of the computer screen image shown in Figure 7 of the original disclosure (left).

Claim 16, lines 4-7: pertaining to a storage means readable by computer readable media for storing a plurality of data sets or databases having all single musical note designations from an all inclusive sample music score covering each possible musical note tied in the database to recorded single musical notes from the actual sounds of all known musical instruments.

This computer readable media was shown in Figure 11 of the original disclosure (left).

Claim 16, lines 8-11: pertaining to a display means for displaying music scores generated by a variety of means including: typing keys on a standard computer keyboard, pointing and clicking on music scores using a mouse or other pointing device, humming, singing, whistling, musical instrument playing or by modification of previously recorded music scores.

The display means was shown in Figure 7 (above left), and several means are implied for entering music notes including clicking a mouse and voice input means.

Claim 16, lines 12 & 13: pertaining to the sound generation means:

A portion of Figure 11 clearly shows the inclusion of a sound generation means.

Claim 16, lines 14 & 15: pertaining to the sound pickup device.

As we have previously pointed out, our original specification referred to being able to process voice inputs from the user which implies use of a microphone.

Items 3 & 4 - Relating to Figure 1 as containing subject matter which was not supported by the original disclosure.

Fig.1 - Simplified Diagram of Instant Musician, Recording Artist and Composer System

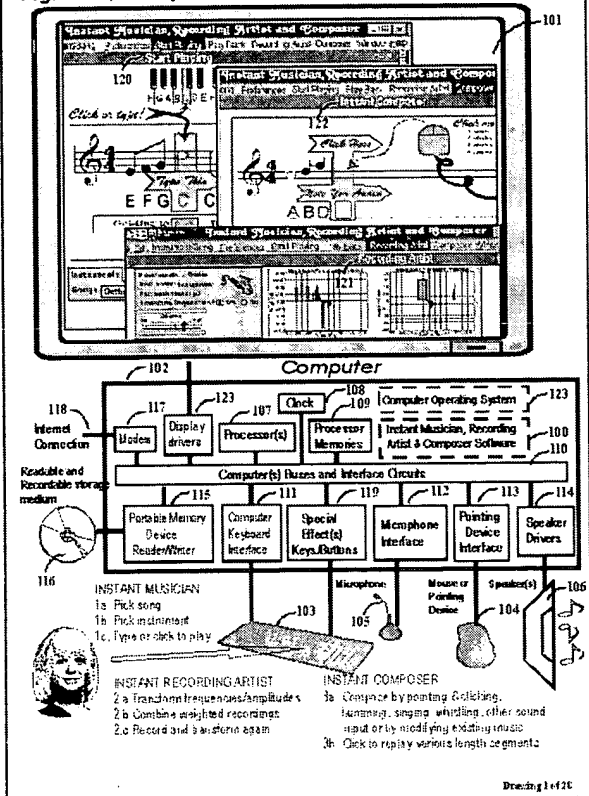


Figure 1- Amended Disclosure.

Figure 1 of our amended disclosure (left) is simply a summary figure revealing all of the major components of our invention, and each element in the drawing was previously mentioned directly or implied. The computer screen depicted simply shows windows of all three subsystems of the overall system (*Instant Musician*, *Instant Recording Artist*, and *Instant Composer*). In the computer (102) are shown common elements in any personal computer (107, 108, 109, ..., 119) and common peripheral devices (116, 118, 104, 106) plus the software (100) of the *Instant Musician*, *Instant Recording Artist*, and *Instant Composer* aspects of our invention. Granted, the microphone was added, but most computers come with them now days and we implied its use as stated previously.

Items 3 & 4 - Relating to Figure 3A as containing subject matter which was not supported by the original disclosure.

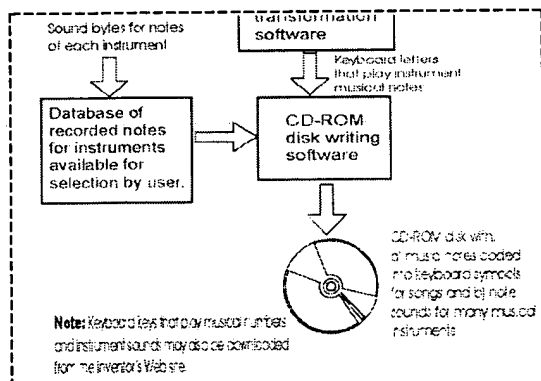


Figure 9 (element of) - Original Disclosure.

Figure 3A of our amended disclosure is simply a slight modification to Figure 2 of our original disclosure. The modification is simply the showing of options for selecting music numbers and instrument sounds from the Web. However, downloading additional musical numbers and instrument sounds from the Web is nothing new we have added as can be seen from the note in the lower left hand portion of Figure 9 in our original disclosure (left).

Items 3 & 4 - Relating to Figure 4 as containing subject matter which was not supported by the original disclosure.

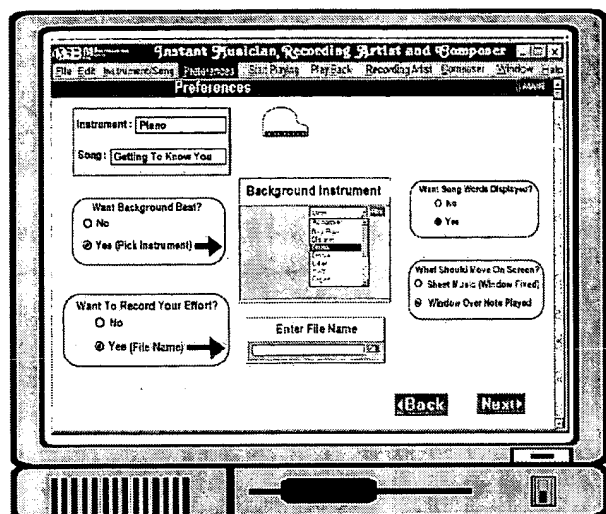


Figure 3 - Original Disclosure.

Figure 4 (below) of the amended disclosure provides only slightly more detail on the implementation of the *Instant Musician* aspect of our invention. This additional detail in Figure 4 (below) compared to Figure 3 of the original disclosure (left) relates only to a picture of the background instrument, relative volume of music played via typing, volume of background beat and whether the microphone is wanted to be on or off.

Further supporting the background instrument inclusion is the following from the original specification, page 6, line 8:

“An optional background music beat may be chosen as well as a display of words corresponding to the musical number if the user wishes to sing along as well.” And again, we believe the use of the microphone was strongly implied.

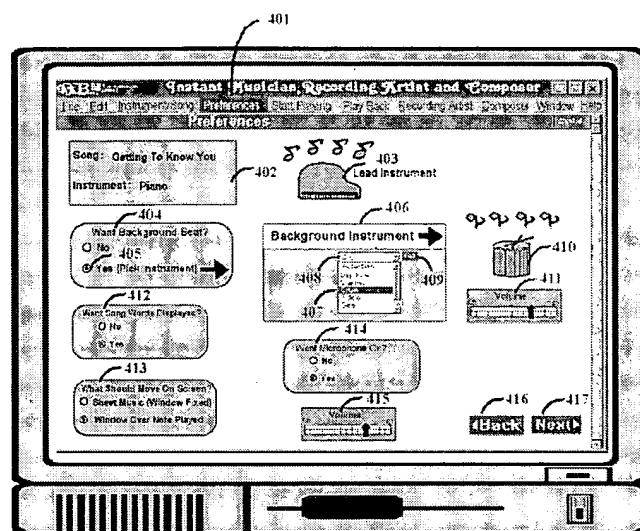


Figure 4 - Amended Disclosure.

Items 3 & 4 - Relating to Figure 5 as containing subject matter which was not supported by the original disclosure.

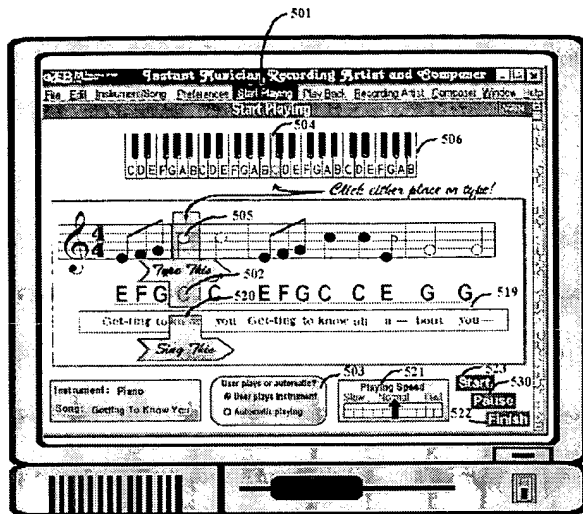


Figure 5 - Amended Disclosure.

Figure 5 of the amended disclosure (left) provides a little more detail on the playing of a music number with a selected instrument sound than what was shown in the original figure (Figure 4, page 2). What was added to this figure was the larger, more detailed selected instrument picture — piano in the example. This more detailed representation of instruments on the computer screen is supported by the statement in our original specification (page 1, lines 22 to 25): This powerful “Instant Musician” feature also speeds the learning process of learning to play musical instruments in a traditional sense because of the direct correlation between notes shown on the screen and the physical location of those notes on the particular instrument of choice.” Using the mouse or pointing device to produce sounds by clicking on the music score (505) is just a minor variation of using the computer to play the music by typing. Also, the automatic play mode (503) simply uses the computer to automatically “type” the music notes represented by computer keyboard keys. This is simply another variation of producing musical note sounds via typing on a computer keyboard where the computer does your typing automatically using the keyboard keys already identified as those that produce the appropriate musical note.

Items 3 & 4 - Relating to Figure 5A as containing subject matter which was not supported by the original disclosure.

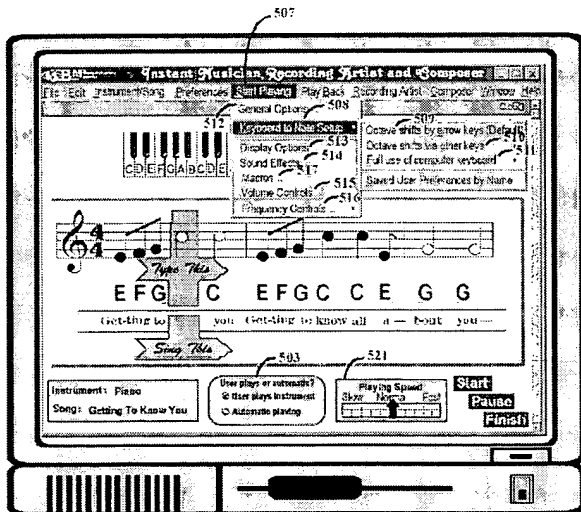


Figure 5A - Amended Disclosure.

Figure 5A of the amended disclosure is a new figure, but it only provides more detail on the *Instant Musician* as aspect of our invention shown in Figure 5 above. All that was added is detail under the *Start Playing* menu item (a submenu) pertaining to user preferences for playing music by typing on a computer keyboard. The main menu of the software was not changed and no new patentable material was added.

Items 3 & 4 - Relating to Figure 5B-as containing subject matter which was not supported by the original disclosure.

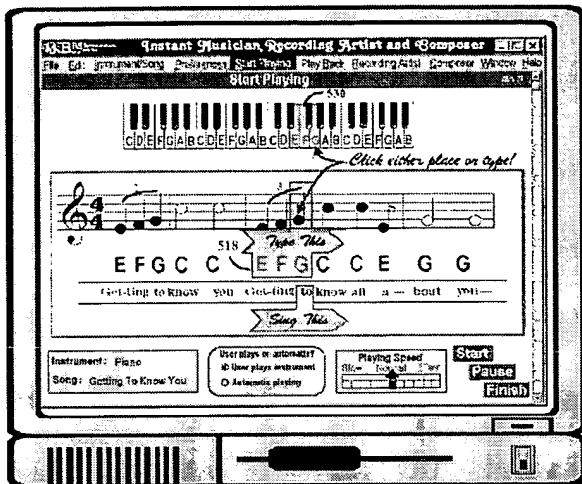


Figure 5B - Amended Disclosure.

Figure 5B of the amended disclosure is a new figure, but it also only provides more detail on the *Instant Musician* as aspect of our invention. Specially, all that is shown is the manner in which multiple or tied notes are played via the computer keyboard. No new capability was added via this figure.

Items 3 & 4 -Relating to Figure 5C as containing subject matter which was not supported by the original disclosure.

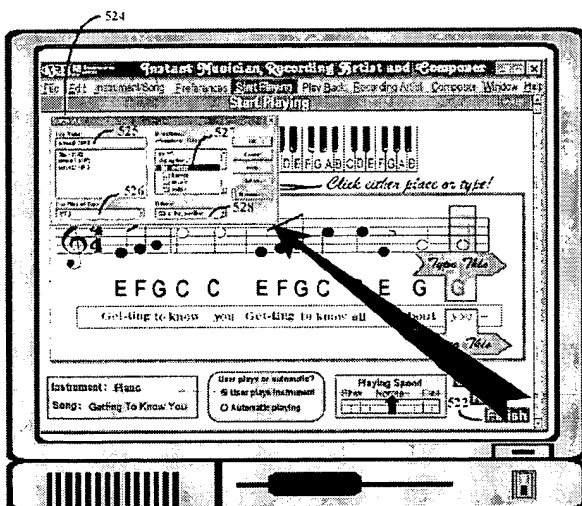


Figure 5C - Amended Disclosure.

Figure 5C of the amended disclosure is also a new figure, but it also only provides more detail on the *Instant Musician* aspect of our invention. Specially, it just shows the manner in which music files created by a user are saved to the computer's hard drive or other memory storage mechanisms.

Items 3 & 4 - Relating to Figure 6 as containing subject matter which was not supported by the original disclosure.

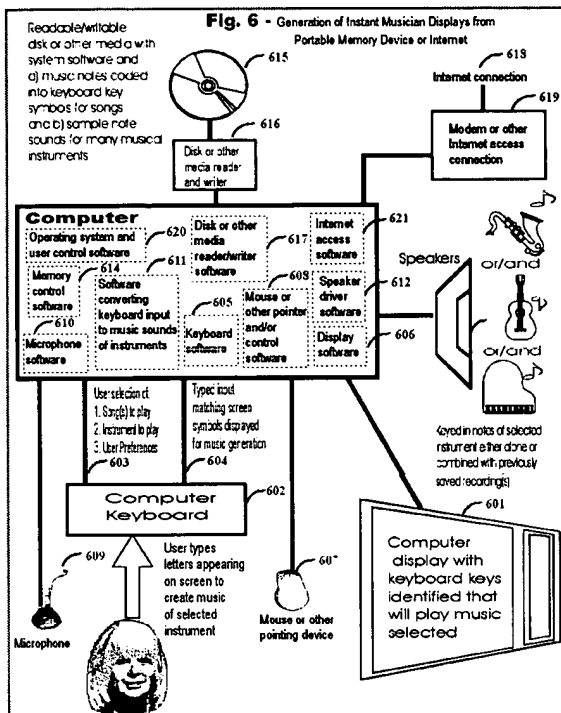


Figure 6 - Amended Disclosure.

Figure 6 of the amended disclosure (left) contained the following items which were contained in Figure 8 of the original disclosure (see page 5): computer, CD-ROM reader (616), computer keyboard with keyboard keys identified that will play music selected (602), and speakers (613). What was not included in Figure 8 of the original disclosure but added to Figure 6 (left) were: a mouse (607), a microphone (609), Internet connection (618) and a breakdown of software packages that would be executed by the computer. We will address these below.

Mouse or other pointing device (607): A mouse was shown in Figure 7 and implied in Figure 1 (Point & Click to Create caption) of the original disclosure and mentioned specifically on pages 2, 3, 4 and 6 of the original specification submitted.

Microphone (607): While no microphone was shown in the original figures, its use was implied on every page of the original specification. Use or references to voice inputs or "voices" was mentioned on all seven pages of the original specification submitted.

Internet connection (618): This feature is was mentioned in the original specification on pages 1,2 and 4. Specifically on page 4 of the original specification we state: Sample musical sounds of additional instruments and additional sheet music to keyboard translations of more songs may be obtained from additional CR-ROM disks produced by the company with the patent rights, or downloaded from the company's Internet site for an appropriate fee.

Software: Most software routines shown in Figure 6 of the amended disclosure are typical software routines or programs found in a typical personal computer or other types of computers. Such standard routines were implied in Figures 8, 9, 10 and 11. These "standard software routines include: operating system and user control software (620), memory control software (614), microphone software (610), disk and other media reader/writer software (617), speaker driver software (612), display software (606), mouse or other pointer control software (608), keyboard software (605), and Internet access software (621). We did not claim any credits for these functions. However, we are claiming credit for the software in Figure 6 that converts conventional computer keyboard input into music sounds of instruments (611). This feature was clearly identified in Figure 8 of the original disclosure (see page 5).

Thus, all elements of Figure 6 are supported by the original disclosure.

Items 3 & 4 - Relating to Figure 8 as containing subject matter which was not supported by the original disclosure.

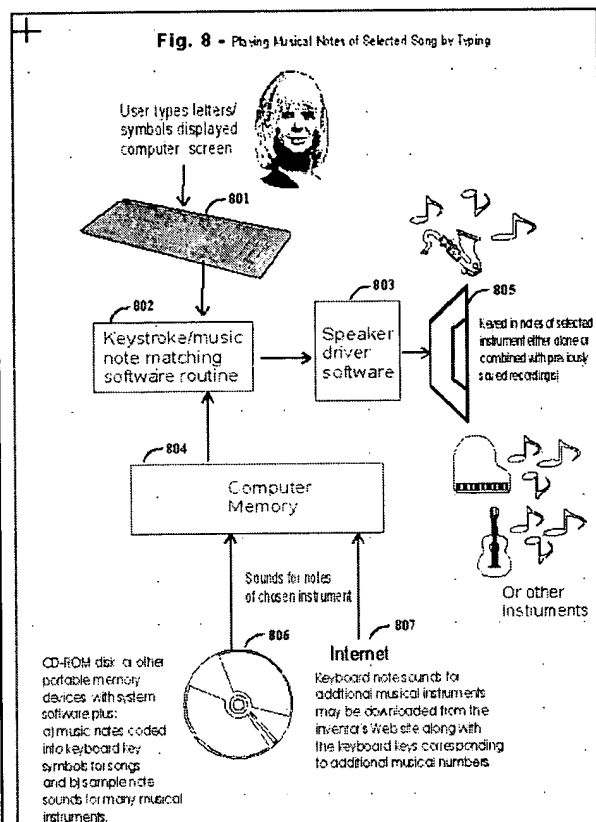


Figure 8 - Amended Disclosure.

Figure 8 of the amended disclosure (left) contained the following items which were contained in Figure 8 of the original disclosure (see page 5): computer keyboard (801), CD-ROM read capability (806), keystroke/music note matching software routine (802) and speakers (805). All other items (803, 804, 807) were covered directly or indirectly also as we point out below.

Speaker Driver Software (803): This item was covered in Figure 11 of the original disclosure (below).

Computer Memory (804): Use of a computer's memory is stated on the bottom line on page 1 of our original specification. Its use is implied many times, of course, since present day computers cannot operate with memory mechanisms.

Internet connection (807): This feature was mentioned in the original specification on pages 1,2 and 4. Specifically on page 4 we state: Sample musical sounds of additional instruments and additional sheet music to keyboard translations of more songs may be obtained from additional CR-ROM disks produced by the company with the patent rights, or downloaded from the company's Internet site for an appropriate fee.

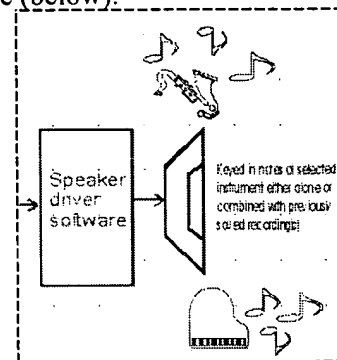


Figure 11 (element of) - Original Disclosure.

Items 3 & 4 - Relating to Figure 9 as containing subject matter which was not supported by the original disclosure.

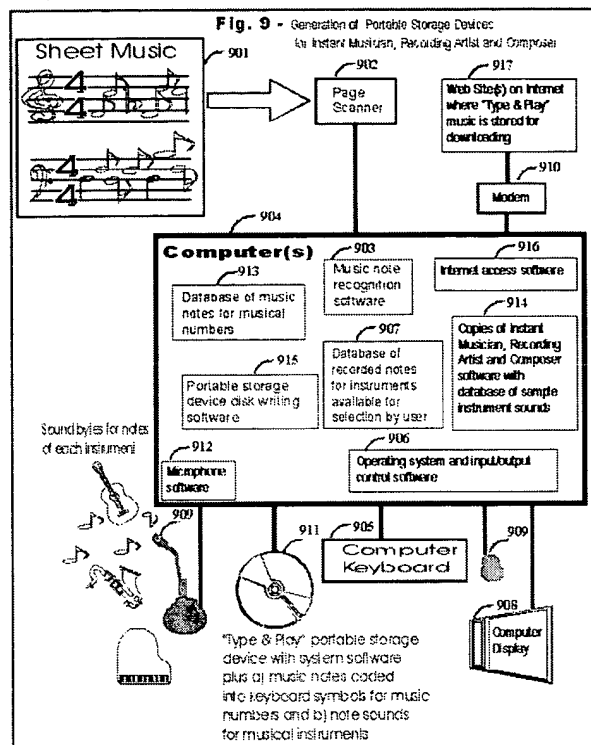


Figure 9 - Amended Disclosure.

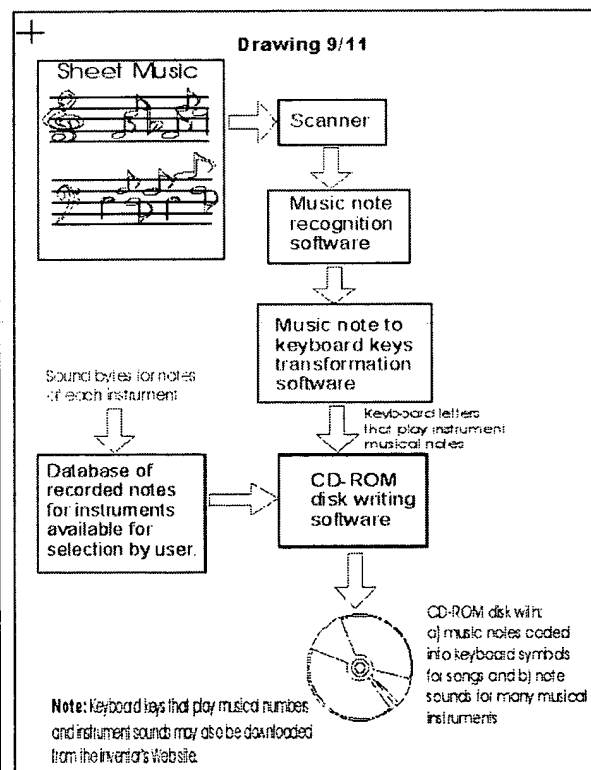


Figure 9 - Original Disclosure.

Figure 9 of the amended disclosure (left) does have any subject matter which was not supported by the original disclosure. Seen on both drawings are: sheet music (901), a scanner (902), music note recognition software (903), computer keyboard (905), database of recorded notes for instruments selected by user (907), portable storage device (911), database of music notes for music numbers (913) and portable storage device disk writing software (915). Other items not appearing directly on the original Figure 9 are discussed below.

Computer (904): Shown in original Figure 8 (see page 5).

Operating System and Input/Output Control Software (906): All personal computers or other types of computers include operating systems and input/output control software. We are not claiming credit for such software, but such standard items are required for just about any computer to operate these days and including these items in the drawing is commensurate with complying the request for more detail.

Computer Display (908): A computer display was shown in Figure 8 of the original disclosure and implied in Figures 1-7.

Microphone/Software (909 & 912): While no microphone was shown in the original figures, its use was implied on every page of the original specification. Use or references to voice inputs or "voices" was mentioned on all seven pages of the original specification submitted.

Web Site, Internet Software & Modem (910, 916 & 917): Use of these features were mentioned in the original specification on pages 1, 2 and 4. Specifically on page 4 we state: Sample musical sounds of additional instruments and additional sheet music to keyboard translations of more songs may be obtained from additional CR-ROM disks produced by the company with the patent rights, or downloaded from the company's Internet site (Web site) for an appropriate fee.

Instant Musician, Recording Artist and Composer Software (914): This is simply the collection of all software routines previously discussed that produce the displays shown in Figures 1, 2, 3, 4, 5 6 and 7 plus the additional details included in the amended disclosure.

Items 5 & 6: Regarding claim 1, Miyano discloses a musician sub-system, a recording sub-system and a composer sub-system. See in particular column 3. Computer keyboard 3 provides for selection of various musical instruments (e.g., see column 3, lines 5-12). Regarding claims 3, 4 and 16, Miyano discloses a computer and display too provide editing of music which reads on the applicant's composing. Sound board 6 inputs music to the system. Regarding claim 11, additional instruments may be played.

Miyano's system focuses on the altering of music that resides in MIDI channels, uses drastically different and limited editing techniques and has many other limitations not present in our application. There is no statement in Miyano's invention that "any musical instrument can be "played" via a standard computer keyboard like our system can. Our system permits anyone, regardless of their music background or lack thereof, to play any musical instrument sounds of their choosing for any music number. Rather in Miyano's invention, music must be inputted into a computer via a piano-like electronic keyboard (designated as "8" in their drawings) or via MIDI music channels. This severely limits the type of instruments that may be played. Regarding Miyano's use of a computer display for editing, there is no evidence that there is a mechanism for editing by music by dragging a mouse on the score created nor is there any evidence that a music score can be created simply by humming or whistling into a microphone like what can be done with our invention. Further, the velocity expander editing process of Miyano's invention cannot transform inputted sound frequencies into any frequency/amplitude combination that our frequency/amplitude transformation mechanisms can.

Item 7: Claims 3 and 16 are rejected under 35 U.S.C. 102(b) as being fully met by either of Goode or Farrand. Each patent discloses a computer system and display containing a music sub-system, a recording sub-system and a composing sub-system.

Goode's system and sub-systems do indeed contain a music composing technique using a computer and a method for recording music. However, the techniques used to compose or alter music are quite different from our invention and the results cannot match what are invention is capable of providing in the way of composed or transformed music. Goode's system divides artistic compositions into blocks of digital information which then may be used alone or with the original to produce rearrangements of the original music composition. And while Goode's system is capable of modulating amplitudes of music segments that can be combined, Goode's system does not have the frequency transformation mechanisms of our invention that can generate music sound frequencies that did not exist in the original composition.

Farrand's system also has similarities to our system in the area of composing music in that music scores can be automatically generated from musicians or composer's inputs, but those inputs must be via an electronic keyboard or MIDI input. In Farrand's system, music scores cannot be generated by humming, whistling or singing into in a microphone like what may be done using our system nor may new music be composed by simply dragging a mouse on the computer screen depiction of an exiting music score like what can be done with our system.

<p><u>Item 8</u>: Claims 3 and 16 are rejected under 35 U.S.C. 102(e) as being fully met by Eller. Eller discloses a computer system and display containing a musician sub-system, a recording sub-system and a composing subsystem.</p>	<p>Eller's invention is directed at using a computer system for the editing and composing music for stringed instruments where the editing (and tuning) may be done on a computer which handles the editing of both conventional music staves and tablature music staff representations. Lacking in Eller's invention is the means to automatically playback edited music using any instrument of the user's choosing like what can be done with our invention. Eller's invention also lacks the ability to compose music simply by whistling or singing into a microphone as what may be accomplished using our invention.</p>
<p><u>Item 9</u>: Claims 2 and 12 are rejected under 35 U.S.C. 102(b) as being fully met by Sato. Sato discloses a computer system and display containing a musician sub-system, a recording sub-system and a composing sub-system. The tone color control therein provides amplitude and frequency control of harmonics making up the music signals. Music signals are input into the system.</p>	<p>Sato's invention allows users to shape the tone of the keys on an electronic keyboard having a piano/organ keyboard design to enable each of keys to create a finite set of different sounds. This differs remarkably from our invention in that we don't require the use of an electronic instrument or piano-like electronic instrument keyboard for the user to play musical numbers. But rather all that is needed to play any instrument with our invention is a standard computer keyboard — like a typewriter with the few standard computer keys: F1, F2, ..., Ctrl, Alt, Insert, etc.). Further, the user need not have any musical instrument playing skills as long as the user can use a standard personal computer or something related to one. Another major feature of our invention that does not appear in Sato's is the ability to create sound frequencies where they did not exist in the original number played with the instrument of choice. Our invention uses the mathematical computing power of the computer to transform originally created recorded or played sounds into any new chosen conceivable audible spectrum composition. This is much more powerful than just controlling the amplitude and frequency of harmonics. Our invention allows the creation or transformation of sound frequency and amplitude combinations that did not even exist originally.</p>
<p><u>Item 10</u>: This items from the patent Officer refers to time constraints on the applicant's reply.</p>	<p>In accordance with the specified timing requirements, the applicant has responded within the three month time period specified even though the response period contained many holidays.</p>
<p><u>Item 11</u>: Indicated how to reach the Primary Examiner, Stanley J. Witkowski, regarding any inquiries.</p>	<p>No inquires were necessary because the Patent Office's response on what was required was quite clear even though the applicant is still proceeding to obtain this important patent without the assistance of a patent attorney.</p>